Carolyn

Town of Fairfield

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Shellfish Commission

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February 19, 2013

D. Gonyea
Bureau of Materials Management and Compliance Assurance
Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

Re: NPDES Application No. 201205444 Exide Group, Inc. at 2190 Post Road Fairfield, Connecticut

Dear Mr. Gonyea:

At its February 13, 2013 meeting, the Fairfield Shellfish Commission reviewed this Exide application in the context of Fairfield's Shellfish Management Plan. The Fairfield's commercial and recreational shellfish programs are directly affected by the Exide matter and the Shellfish Commission has coordinated its efforts over the past decades with other town and state agencies to assist Exide in remediating the lead contamination resulting from years of battery manufacturing activities along the Mill River estuary. This letter brings to bear the Commission's knowledge, experience, and recommendations on the Exide matter and its NPDES application in the following comments.

In summary, upon its review of the Exide NPDES permit application, its referenced Proposed Mill River Sediment Remediation Plan of April 2012 (SedRAP) by Exide, and the CTDEEP Consent Order #SRD-193 of October 20, 2008, the Fairfield Shellfish Commission believes that the Exide application has been filed prematurely, and in doing so is inconsistent with, and contrary to, the intent and the specific terms and conditions of the enabling enforcement action, Consent Order #SRD-193 sections B.2.d.(6) and B.2.f.(1) and (2), and should therefore be withdrawn by Exide or be rejected by the CTDEEP.

The SRD-193 consent order sections are predicated on a logical, technically sound progression of mandatory actions that are intended to achieve the successful remediation of the lead-contaminated sediments in Mill River. They require Exide to submit a "detailed" sediment remediation plan and await the Commissioner's approval of the proposed plan prior to Exide's

applying for relevant permit applications. This sequence was required ostensibly because the CTDEEP and Exide wished to inform the public and elicit local knowledge and expertise concerning the project, and to ensure that the approved remediation plan is scientifically and technically sound, complete, and incorporates all the elements needed for a regulatory agency to appreciate the significance of the project and impose appropriate permit conditions. Exide has skipped this step, i.e., waiting for the Commissioner's approval of the proposed remediation plan, and jumped ahead to the permit application stage asking regulatory agencies to approve a permit without first knowing what the Commissioner will approve in the remediation plan.

Further, our records show that while presented to selected limited audiences (town administration, public officials, and private property owners) in 2011 and 2012, the referenced Exide Proposed SedRAP has not been presented at a meeting for the general public as Exide and the CTDEEP assured that it would be. Further, the CTDEEP published its December 20, 2012 notice of the public meeting on the proposed SedRAP and then published a two-day advance public notice of the Commissioner's Tentative Determination to Approve the Exide NPDES permit on January 8, 2013 for the CTDEEP's January 10, 2013 public meeting for a combined review of the Exide SedRAP, the Exide Office of Long Island Sound Programs application, and the Exide NPDES application, all within a two hour SRO session within which the CTDEEP and Exide allowed forty-five minutes for public comment on all three subjects. Of three versions of the Exide SedRAP, only two versions have been disclosed to the public. During this public meeting, seven members of the public were permitted to speak, and when one of them requested information on why the scope of Exide's contaminated sediment removal project had expanded nearly thirty percent in volume with no explanation in the application or the two previous versions of the SedRAP, the CTDEEP moderator responded by stating that the Exide representative had just stepped out of the room and would soon return to answer the question – neither of which occurred. The public has not yet had an opportunity to be fully informed or to comment effectively on this Exide matter.

By acting on its Tentative Determination to Approve this NPDES application prior to approval of the Proposed Mill River SedRAP, the CTDEEP will further confuse and compound Exide's error introduced when Exide prematurely submitted its application contrary to the terms of its consent order.

Further, Exide cites its Proposed Mill River Sediment Remediation Plan of April 2012 as the basis for Exide's NPDES permit application, which the Shellfish Commission finds incomplete. A review of Exide's NPDES application and the Proposed SedRAP discloses the fact that Exide has deferred submittal of the project details and work plan until this information is developed and provided by the successful bid contractor on the remediation project (see below and SedRAP comments).

Further, the Shellfish Commission reviewed the cited Consent Order, #SRD-193, and notes that Section A.25 requires Exide to provide plans and implement a supplemental investigation and remediation of the CTDOT highway stormsewer in the Post Road, which work is now in progress. This section is derived from earlier investigations when Exide was ordered to clean and video-inspect the Post Road stormsewer in front of its factory and the Railroad stormsewer along the rear of its factory as these two pipe systems were known to have discharged factory wastes in the past. In 2000, without first cleaning the pipes, Exide was unsuccessful in its efforts

to video-inspect either of these drain systems, and, inexplicably, CTDEEP ordered Exide to only return to address the CTDOT Post Road drain pipe in SRD-193 section A.25. This requirement is a logical extension of CTDEEP's efforts to ensure that potential sources of lead are found and remediated so that they may not contribute to future contamination after the river sediments are cleaned. The railroad drain is still an open order that must be resolved.

To this end, CTDEEP should implement a revised consent order under the provisions of SRD-193 Section 13, and require Exide to provide and implement a supplemental upland plan for investigation, including cleaning and video-inspection, of the contents and structural integrity of the railroad drain system.

In light of these facts, the Shellfish Commission believes that the Exide Group, Inc.'s NPDES permit application, and all other applications, should be withdrawn by Exide or be rejected by the CTDEEP until such time as Exide complies with Consent Order #SRD-193.

Comments on the specific sections of the Exide NPDES permit application:

Part I: Application Type
Category of discharge source:
Exide states "Other: Filtrate from dewatered sediment" as a new application for discharge to surface water.
[Exide does not indicate the industrial nature of its Mill River SedRAP lead-recovery project due to its former factory waste discharges. Exide's response is incomplete in that it does not address the industrial nature, project scope, multiple discharge locations, or potential environmental impacts of Exide's SedRap multiple discharges into the Mill River. Exide's response here is somewhat misleading in that it implies that the hydraulic dredging activity is required by CTDEEP Consent Order #SRD-193, when in fact, Exide is proposing hydraulic dredging from a list of several alternative excavation methods that may be used to extract lead-contaminated sediment from the Mill River; excavation methods that would follow Exide's preparatory construction of barriers that are intended to isolate the dredging activity, and its contaminated resuspended sediment discharges, from the open waters of the Mill River. Such isolation of the sediment extraction activities and discharge of contaminated resuspended sediment from the open river could be achieved by first containing the active dredge cell within a watertight perimeter wall or cofferdam, but instead Exide has proposed use of a suspended off-bottom silt curtain similar to Exide's hydraulic dredging and silt curtain activities in the spring and summer of 1983 that resulted in gross contamination of the Mill River due to the discharge of lead-contaminated resuspended sediment from the active dredge cell silt curtain into the unprotected river.

Exide has demonstrated the effectiveness of lead remediation with watertight cofferdams in confining contaminated soils and sediment in its use of steel sheet-piling along the east bank of the mill pond where Exide is currently remediating the contaminated soils of the septic leaching field. After isolation of the soils/sediments within its cofferdam, Exide uses a back-hoe to extract the contaminated materials. Exide could as easily use a hydraulic dredge, clam-shell,

drag-line, back-hoe or other excavator to remove the contaminated sediments from within a confined cell without discharging lead-contaminated resuspended sediment into the unprotected waters of Mill River; especially, when these sediments are so highly contaminated as in Areas I, II, and III, and during the spawning season of fish and shellfish whose larvae will be exposed to the adverse impacts of the discharge. The issue at hand is not whether Exide should use hydraulic dredging or any other method of extracting contaminated sediment from the Mill River, but only that whatever method it elects to use, Exide shall first demonstrably secure and isolate the active excavation cell and any subsequent discharge of contaminated resuspended sediment from the open waters of the river.]

The actual process of hydraulic dredging as a point-source discharge of lead-contaminated resuspended sediment from the dredge cell silt curtain into the unprotected waters of the Mill River, especially during the protected spawning periods, is not acknowledged as an NPDES regulated activity; and this activity should be included in any NPDES application submitted to the CTDEEP.

Part II: Fee Information

Part III: Applicant Information (response)
Exide Group, Inc.
Location Address: 2190 Post Road, Fairfield, CT 06824
Exide states "Site Owner" with CCA, LLC Brookfield CT as primary contact.

Part IV: Site Information

1. Facility Name and Location (response): The former Exide battery facility; 2190 Post Road; within the Coastal Boundary; yes to species of concern; no aquifer protection area; no conservation or preservation restrictions; no public water supply watershed.
   [The application is incomplete in that Exide states that the project is located at 2190 Post Rd., but in fact, 1) the proposed project includes the construction of 400 feet of discharge pipeline on the property of the Metro-North Railroad and the construction and anchoring of the discharge raft assembly on the property of the Metro-North Railroad (at its bridge and right-of-way) and that of an adjacent private property owner (see Attachment F: Site Plan "Conceptual Facility Plan", and Tax Assessor's map) without recognition or submitted consent of their respective owners; 2) the proposed dredging project entails the removal of lead-contaminated sediment by installing anchors/piling, dredge cells, constructing flow diversions, and related structures over 4,000 feet of river channel covering 36 acres and in excess of fifty owners of underlying public and private property which Exide has not identified, or provided any acknowledgement from the affected property owners; and 3) the project entails over a dozen proposed dredge cells that will discharge untreated contaminated resuspended sediment from their perimeter silt curtains into the unprotected waters of the Mill River.]

   Exide should submit a revised application addressing:

   1. current property ownerships affected by the proposed project in its entirety and the owners' acknowledgements of Exide's use thereof;

2. the individual point source discharges of untreated lead-contaminated resuspended sediment from all dredge cells' perimeter silt curtains.

3. Coastal Boundary (response): Yes; (See Attachment G: Coastal Consistencies Review Form Part IV: Identification of Applicable Coastal Resources and Coastal Resource Policies) [Exide fails to acknowledge the fact that its 2190 Post Road property and the greater river area include inland wetlands and watercourses (IWWC) lying in and adjacent to the project area. Exide presently holds a valid Fairfield IWWC permit for its on-going supplemental upland remedial activities at the former battery factory location and Exide may be expected to apply for a new permit if the proposed remediation project contains any regulated activities in regulated areas as determined by the Inland Wetland Agency.]

-Exide should submit a revised application which reflects the presence of IWWC coastal resources in the project area.

Part V: Facility or Activity Information

1. For the facility or activity generating the discharge, provide a list of materials utilized, products produced or services provided, if applicable.
   Principle Raw Materials (response):
   Exide states "In response to CTDEEP Consent Order SRD-193, the remediation of lead-impacted river sediments will produce sediment dewatering filtrate (river water) processed by polymer flocculant.".
   Products Produced:
   Exide states "Dewatered sediment filtrate (river water); sediment cake for upland disposal."
   Services Provided:
   Exide states " Dredging & dewatering of lead-impacted sediment."
2. SIC Codes:
   Exide states "N/A"
3. Identify wastes or wastewaters not included in this application or previously licensed by another permit or general permit.
   Exide makes no comment or response in this subsection.
   [Exide's NPDES application is significantly flawed due to being incomplete by its failure to address the discharge of untreated lead-contaminated resuspended sediment from its active dredge cells' perimeter silt curtains into the waters of Mill River during the protected spawning periods for anadromous fish and shellfish species.

   [As noted in this application's supporting documents, Exide cites the CTDEEP's 2008 Consent Order #SRD-193 as the reason for generating Exide's April 2012 Proposed Mill River Sediment Remediation Plan which, following eventual approval of the proposed plan by the CTDEEP Commissioner, will provide the basis for all derivative local, state, and federal permit applications, including this NPDES permit application document for dredging 27,600 cubic yards of lead-contaminated sediment in Mill River which Exide proposes to conduct during active spawning periods of shellfish and state anadromous fish species of conservation concern.

It should be noted that Exide's NPDES permit application is not related to navigational dredging, or to channel or mooring field maintenance, or to land reclamation, utility installation, or any related excavation or deposition of sediment other than to remediate over five decades of lead battery manufacturing wastes deposited in the Mill River. Exide's application does not reflect the fact that during and after the decades of its battery manufacturing, Exide has, in effect, temporarily stored its industrial wastes in the sediments of Mill River until such time as it is prepared to remediate them. Exide is now proposing an industrial lead-remediation project that is an extension of its battery manufacturing and waste disposal activities, which project will essentially mine the lead in the contaminated sediments within Exide's many active remediation dredge cells in the Mill River.

Exide is under enforcement orders to remediate the lead-contaminated sediments in the Mill River in a manner that will achieve the state's goals without secondary or collateral contamination of the river. Exide is not required to dredge anything, and should not do so if it cannot ensure protection of the non-target areas and protected spawning season life forms in the Mill River. If Exide wishes to proceed with dredging activities without a protective wall or dam and without demonstrating discharge protection of protected spawning season species and their respective age classes, e.g., shellfish larva, Exide should be prohibited from dredging during those protective spawning periods.

A note about hydraulic cutterhead dredging within silt curtains as proposed by Exide and why the method is not a viable alternative for blanket application in the waters of Mill River. A review of the literature (Collins 1995) shows that "Perfectly designed and operated cutters [hydraulic cutterhead dredges] will introduce a sediment slurry that will be completely entrained by the flow to the dredge pump. However, spatially varying sediment properties and cutter operations inevitably lead to a sediment slurry that the pump cannot handle, resulting in sediment resuspension or release."

How much sediment resuspension or release? In its April 2013 SedRAP (p. 35), Exide suggests that it could be as little as 0.013% or less than three cubic yards of material from the proposed 21,440 cubic yard (CY) SedRAP remediation project. In its literature review, Anchor (2003) cites studies of resuspended sediment from hydraulic dredges varying from less than one percent to over eight percent of the project material (dry weight) which could mean over 1,715 CY of contaminated material resuspended into the supposedly-isolated dredge cell water column from this 21,440 CY project. This is not unreasonable when we consider that in 1983, Exide remediated the mill pond by dredging over 4,100 CY of lead-contaminated sediment and then had to recover approximately 283 cubic yards of additional material (6.9% of project) that included mud wave and resuspended sediment within the silt curtain. The additional resuspended sediment in the water column and the bottom mud wave that were discharged from the silt curtain dredge cell into the Mill River were unaccounted for.

What happens to the resuspended sediment within the dredge cell silt curtain? Francingues and Palermo (2005) report useful information that is worth repeating here: "What Processes Affect Silt Curtains? In many cases where silt curtains are used, the concentration of fine-grained suspended solids inside the curtain enclosure may be relatively

high (i.e., in excess of 1 g/L). The suspended material may be composed of relatively large, rapidly settling particles or flocs. In the case of a typical pipeline disposal operation surrounded by a silt curtain where suspended solid concentrations are high and material usually flocculated, the vast majority (95 percent) of the fine-grained material descends rapidly to the bottom where it forms a fluid mud layer that slopes away from the source at an approximate gradient of 1:200. The other 5 percent of the material remains suspended in the water column above the fluid mud layer and is responsible for the turbid appearance of the water inside the curtain. While the curtain provides an enclosure where some of the fine-grained material may flocculate and/or settle, most of this fine-grained suspended material in the water column escapes with the flow of water and fluid mud under the curtain. The silt curtain does not indefinitely contain turbid water but instead controls the dispersion of turbid water by diverting the flow under the curtain, thereby minimizing the turbidity in the water column outside the silt curtain. Whereas properly deployed and maintained silt curtains can effectively control the distribution of turbid water, they are not designed to contain or control fluid mud. In fact, when the accumulation of fluid mud reaches the depth of the ballast chain along the lower edge of the skirt, the curtain must be moved away from the discharge; otherwise sediment accumulation on the lower edge of the skirt can pull the curtain underwater and eventually bury it. Consequently, the rate of fluid mud accumulation relative to changes in water depth due to tides must be considered during a silt curtain operation". This report suggests that Exide's proposed remediation project may discharge over 85 cubic yards of lead-contaminated resuspended sediment into the water column as well as a potentially much greater, but unknown volume of contaminated fluid mud in bottom waves to the open waters of the Mill River. If Exide's new sediment estimate of 27,600 CY is correct, the amount of contaminated resuspended sediment could be well into the hundreds, if not thousands, of cubic yards.

Exide has not provided any test data on the matter of resuspended sediment volumes resulting from its proposed dredging activities.

In keeping with the Francingues and Palermo recommendation, Exide does not propose to secure the bottom of the supposedly-isolated dredge cell silt curtain, but instead to suspend the curtain approximately six inches off the bottom and to lift the curtain up to avoid damage during storm events. According to the Francingues and Palermo findings, we may expect that Exide's management of the dredge cell silt curtain when deployed as designed will initially discharge the bottom mud waves to spread approximately one hundred feet beneath and beyond the silt curtain and then be redistributed by river and tidal currents into uncontaminated or previously-remediated areas, as well as into the water column where it will impact the life forms and varied age classes of normally-protected fish (river herring are designated as species of state conservation concern) and shellfish species during their spawning seasons. When Exide lifts the silt curtain to protect it from damage due to storm events or operational needs, the contaminated resuspended sediment will be distributed throughout the unprotected waters of the Mill River in what will essentially be an unconfined dredging operation – inconsistent with the Clean Water Act and contrary to the CTDEEP's consent order.

In summary, Exide's lead recovery activity will entail the isolation of successive dredge "cells" by sequentially deploying a suspended perimeter panel or silt curtain around the active in-river dredging area or "cell"; then, within the supposedly-isolated dredge cell, mechanically agitating and resuspending the contaminated river sediments into the water column with a hydraulic cutterhead dredge while the dredge pump sucks up the resuspended sediment and water at about 1,000 gallons per minute and pumps most of the sediment and water as a dredge slurry to a dewatering facility. It is during this period of dynamic mechanical agitation and cutterhead motion where the contaminated resuspended sediment is not completely captured by the dredge pump, but is allowed to be distributed within the "mixing zone" of the dredge cell which is defined by the perimeter silt curtain.

Exide claims in its NPDES Attachment G: Coastal Consistency Review Form (p. 2 of 5, Part III: consistency with applicable coastal use and activity goals and policies), that "Floating turbidity curtains will be in place forming dredge "cells", within which any released suspended sediments would be contained, and outside which fish migration would be allowed at all times during the project." Exide continues in stating that turbidity instruments will be in place to notify its Operators if turbidity levels are exceeded due to a discharge of resuspended sediment from the dredge cell. Exide's statements create the impression that the resuspended sediment will be "contained" securely within the dredge cell to protect spawning species and that Exide will cause the dredging to stop if a discharge of resuspended sediment occurs, but Exide doesn't say that. Exide states in its SedRAP that resuspended sediment will in all likelihood occur and it is expected to be discharged from the dredge cell – that's the reason why Exide proposes to deploy monitoring instruments and notify the Operator of a discharge problem.

It is when the dredge cell perimeter silt curtain is compromised by river, wind or tidal currents, or by slippage of the bottom substrate, or silt curtain and equipment failure (and in Exide's application by having the silt curtain intentionally suspended off the river bottom approximately six inches and periodically removed to prevent silt curtain damage during storm and work events) that the contaminated resuspended sediment will be discharged as a point source from the dredge cell silt curtain wall into the open waters of Mill River.

At the dewatering facility where it will receive the dredge slurry at approximately 1,000 gallons per minute, the sediment-water slurry will be dewatered mechanically or by gravity in textile bags for production of a contaminated sediment cake product that will be shipped for disposal or reuse off the site. Following dewatering, the filtrate water will be treated and discharged back to the Mill River at up to approximately 330 gallons per minute.]

Exide:
-Exide should provide a water budget and explanation in a revised NPDES application for the apparent discrepancy between dredge production slurry input rates and volumes and treated filtrate water output discharged to the river and how they will be reconciled during the project.

Exide proposes to monitor the discharge of contaminated resuspended sediment from the active dredge cell by deploying instruments approximately one hundred feet upstream and

downstream from the mixing zone of the dredge cell perimeter silt curtain, which will provide no protection to the open waters of Mill River and the anadromous fish and shellfish species in the river during their spawning seasons.

Exide:
- Exide should deploy instruments to monitor the discharge of contaminated resuspended sediment from the dredge cell silt curtain perimeter at locations along the cell perimeter at the bottom, top and mid-point of water depths, and with instruments and in a manner that relate the parameters monitored in the water column to the parameters of importance identified in the elutriate and toxicity tests related to the species and age classes of the fish and shellfish species expected to be present in the Mill River estuary while Exide is actively dredging during their spawning seasons.

Exide proposed to the CTDEEP (see the CTDEEP – Exide 2010 meeting minutes with town, state and federal agency representatives) that if Exide could demonstrate that it could protect all spawning fish and shellfish species from exposure to the adverse effects of the lead-contaminated sediment remediation project, that Exide should be allowed to conduct its remediation activities in the Mill River through all normally protective spawning seasons – received as a not unreasonable proposal by interested meeting participants. As noted in this application, Exide proposes to dredge during the normally protective spawning seasons, but it has not demonstrated its ability to protect the fish and shellfish species of concern from such discharges; nor has Exide provided any information concerning elutriate tests of the dredge slurry or resuspended sediment, or any toxicity testing of the resuspended sediment against the life forms and age classes of the fish and shellfish species present in the water column if discharges occur. Exide has offered toxicity test results for shrimp and minnows reflective of conditions that apply to the treated filtrate water discharge, but nothing pertaining to the discharge of resuspended contaminated sediments in the water column or in the fluid mud waves discharging from the bottom of the silt curtain dredge cell perimeter.

Until such time as Exide demonstrates no adverse impacts to spawning species and their range of age classes from discharges of lead-contaminated resuspended sediment within dredge silt-curtain "cells", Exide should be prohibited from in-water activities during protective fish and shellfish spawning seasons. Exide may propose to conduct its sediment remediation activities within walls or cofferdams during protective spawning seasons.

Exide:
-If Exide proposes to dredge within normally protective spawning periods, Exide should be required to conduct tests of the contaminated resuspended sediment for its physical, chemical and biological properties and for its acute toxicity against the age classes (including larval forms) of the fish and shellfish species known to be within the water column during the normally protective spawning periods when Exide will be dredging.
-If Exide proposes to remediate contaminated sediments within active spawning periods for fish and shellfish, Exide should be required to immediately stop the remediation activities upon discharge of contaminated resuspended sediment from the excavation cell perimeter until the source of the discharge problem is identified and corrected.

The current draft of the Proposed Mill River SedRAP proposes that Exide will only dredge 21,440 CY of contaminated sediment. In this NPDES application Exide states, without elaboration, that it will dredge 27,600 CY of lead-impacted sediment in implementing its Proposed Mill River Sediment Remediation Plan. Exide cannot know what volumes of sediment it will be required to dredge in this NPDES application because the CTDEEP Commissioner has not yet approved Exide's Proposed Mill River SedRAP.]

Exide:
- Exide should revise its Mill River SedRAP and provide an explanation for the discrepancy between dredge volumes (21,440 CY vs. 27,600 CY), plus a discussion of why the thirty percent increase is necessary and its implications for affecting all aspects of the project; including but not limited to, how the increase in the volume of the project will affect the project's expanded duration and seasonal timing, extension of daily activities, increased production, treatment, and transportation areas and facilities required, increased discharge requirements, increased residual depths of channel substrate and creation and expansion of anaerobic sumps in the channel, disturbance to and increased impacts on aquatic plants and animals, and increased need for compensatory mitigation for adverse environmental impacts.

(Part V (cont'd.)

4. Inventory of toxic and hazardous substances and oil or petroleum liquids (response):
   Exide lists "Solve 124: Organic cationic emulsion; Solve 416: Cationic Coagulant; Solve 9330: Organic Anionic."
5. For outstanding requirements or compliance schedules which are related to the discharges that are the subject of this application (response):
   Exide states "ID of Requirement -- State: SRD-193; Brief Description of Project -- Environmental Dredging: project in permitting stage; Final Compliance Date -- November 2013 (projected)".
   [Contrary to its assertion, Exide's project is not in the "permitting stage" – Exide's proposed Mill River sediment remediation plan is still under review and not approved by the CTDEEP Commissioner. As specified in Consent Order #SRD-193 B.2.f (1), p. 7, Exide must file any necessary permit applications, such as this NPDES application, subsequent to the Commissioner's approval of a sediment remediation plan. CTDEEP representatives have stated that the DEEP will not issue any of its permits until public comments are received and the SedRAP is approved. No information was offered about modifying the federal Corps general permit which was approved and issued to Exide in September 2012 without opportunity for public review and comment and without Exide's SedRAP being in compliance with its Consent Order SRD-193.]

Part VI: Supporting Documents

Part VII: Application Certification
Attachments A—V
Attachment F: Site Plan: Conceptual Facility Plan (6/27/12)
Exide depicts a dredge slurry dewatering complex incorporating nearly one-half the site area devoted to thirty-three Geotubes draining to a filtrate treatment area which flows through a 600-foot long pipeline over Exide and Metro-North property to a discharge float assembly anchored

in the mouth of the Metro-North railroad bridge in the Mill River channel.

[Exide's placement of the discharge float at the bridge places it in a location where it may be damaged by storm events and floating debris or jammed in the bridge opening where it may damage other properties; this float location will obstruct boating access on the river; as well as potentially interfere with the behavior of spawning fish in the narrow and shoaling channel at this location. The lack of detail and conceptual nature of Exide's NPDES application and SedRAP is underscored by the conflicting plan descriptions of the discharge float located in the Mill River – the text note on the Conceptual Facility Plan indicates that the structure is 40'L X 5'W while the inset detail specifies a 60'L X 20'W structure.]

Exide:
-Exide should relocate the discharge float assembly in an off-channel area where it will not interfere with channel flow or debris, boating access in the channel, and migratory fish runs.
-Exide should provide detailed plans that correctly depict the structures proposed for the remediation project.

Shellfish Commission concerns related to Exide's NPDES application related to bacteria, nitrogen, phosphorous, heat, and oil.

1. Bacteria.
   The Mill River estuary, including Southport Harbor, is the subject of an active TMDL program that addresses water quality impairments due to lead, chromium and bacteria (fecal coliform).
   Fecal coliform is of great concern because the shellfish beds (including Natural Shellfish Beds, recreational and commercial shellfish beds) associated with the Mill River estuary (in the Mill River, Southport Harbor, and out in Long Island Sound) are managed under an MOU with Fairfield by the State Department of Agriculture – Bureau of Aquaculture under water quality regulations that are predicated on the concentrations of coliform bacteria in the water column. Exceedances of permissible bacteria concentrations, even from dredging operations, will result in closure of the shellfish beds – as has happened in the past.
   During Fairfield's Pine Creek marsh restoration and mosquito control activities several years ago, amphibious ditchers and excavators were used to remove accumulated sediment from the salt marsh channels. Some of the accumulated organic matter and sediment were apparently mobilized with the tides and transported down Pine Creek and out into Long Island Sound where subsequent water quality testing by Aquaculture resulted in closures of the recreational and commercial shellfish beds off Pine Creek Point, Kensie Point and Sasco Hill Beach. All parties affected by the event were understandably concerned and Exide should anticipate the need to monitor for, and prepare to mitigate, such an eventuality when it remediates the sediments in Mill River.

   Exide:
   -Exide should include coliform bacteria in its hourly sampling regimen at any and all discharge points from the active dredge cells as well as the discharge of treated filtrate return water to the Mill River.
   -Exide should prepare and submit a contingency plan for compensatory mitigation of all adverse impacts on the Natural Beds, recreational and commercial shellfish beds and related

shellfishing activities resulting from Exide's sediment remediation project.

2. Nitrogen and Phosphorous are of concern due to the impounded condition of the Mill River above the tidemill dam where nutrients and organic matter accumulate in large quantities. The dredging activities will mobilize these suspended and dissolved materials that will support the growth of aquatic plants, especially algae, that will flourish and subsequently die and decompose; stripping the dissolved oxygen from the water; especially during the summer when elevated temperatures in the river and discharge water have reduced capacities for holding dissolved oxygen, when aquatic organisms require increased dissolved oxygen to avoid undue stress.

   Exide should include nitrogen and phosphorus in its daily sampling regimen at any and all discharge points from the active dredge cells as well as the discharge of treated return water to the Mill River.

3. Heat
   While Exide has not yet determined if its successful bid contractor will use mechanical or gravity dewatering techniques, Exide depicts the use of thirty-three Geotubes, or black permeable geotextile bags, 120' L X 40' W, in its Conceptual Facility Plan. This gravity dewatering technique will involve over 1.5 acres of black energy-absorbing textile bags that, especially during the summer, may be expected to produce filtrate discharge water with elevated temperatures and reduced DO that could adversely affect the receiving waters and ecological receptors in the river.

   Exide should monitor and adjust its treated filtrate discharge water so that, during fish and shellfish spawning seasons, it is coincident with the receiving water upon discharge to the river.

5. Oil
   Exide's 1983 dredging activities in the mill pond produced a distinct surface oil slick that discharged through the dredge cell perimeter silt curtain into the Mill River. Additional oil slicks may be expected as a consequence of Exide's proposed SedRAP in this remediation project.

   Exide should monitor and treat any oil slicks associated with the remediation project cells and the dewatering filtrate prior to discharge to the Mill River.

Literature Cited

1. Collins, M.A. 1995. Dredging Induced Near-field Resuspended Sediment Concentrations and Source Strengths. Dredging Operations Technical Support Program misc. paper D-95-2, Prepared for US Army Corps of Engineers, US Army Engineer Waterways Experiment Station, Vicksburg, [page 10.]

2. Anchor Environmental C.A. L.P. 2003, Literature review of effects of suspended sediment due to dredging operations. Prepared for Los Angeles Contaminated Sediments Task Force Los Angeles, California.. One Park Plaza, Suite 600 Irvine, California 92614. June 2003. 140pp.
3. Francingues, N. R., and Palermo, M. R. (2005). Silt curtains as a dredging project management practice, DOER Technical Notes Collection (ERDC TN-DOER-E21). U.S. Army Engineer Research and Development Center, Vicksburg, MS. 18p.

Please do not hesitate to contact me if I may be of further assistance in this matter.

Sincerely yours,

Thomas J. Steinke

TJS/jm

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